

REMARKS

At the outset, the Examiner is thanked for the thorough review and consideration of the pending application. The office action dated January 16, 2003 has been received and its contents carefully reviewed.

Claims 1, 3-5 and 15-26 remain in the application. Claims 2, 6-14, and 26-41 have been canceled. Claims 1, 3, 15, and 18-22 are amended.

In the Office Action, claims 14 and 15 are rejected under 35 U.S.C. 112, first paragraph, as based on a disclosure which is not enabling; claims 1, 2, and 4 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 6,133,967 to Moon ("Moon"); claims 3, 15-22, and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Moon; claims 5 and 23-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Moon in view of U.S. Patent No. 6,545,730 to Hwang ("Hwang").

The rejection of claim 15 under 35 U.S.C. 112, first paragraph, as being based on a disclosure which is not enabling is respectfully traversed and reconsideration is requested. Claim 15 has been amended, and Applicant respectfully submits that this rejection is overcome. The rejection of claim 14 is moot as claim 14 has been canceled.

The rejection of claims 1, 2, and 4 under 35 U.S.C. 102(b) as being anticipated by Moon is respectfully traversed and reconsideration is requested. Claims 1, 2, and 14 are allowable over the cited references in that this claim recites a combination of elements including, for example, "a single gate insulating layer formed on an entire surface of the first substrate so that single gate insulating layer in the first region is thinner than in the second region" and "a semiconductor layer and source and drain electrodes deposited on the single gate insulating layer of the second region." Moon does not teach or suggest at least these features of the claimed invention. Specifically Moon discloses two insulation layers 5 and 6 where the semiconductor layer is. Therefore, the structure of claims 1, 2, and 14 of the present invention is different from the structure of Moon. Accordingly, Applicant respectfully submits that claims 1, 2, and 14 are allowable over Moon.

The rejection of claims 3, 15-22, and 26 under 35 U.S.C. 103 as being unpatentable over Moon is respectfully traversed and reconsideration is requested. The rejection of claim 26 is now moot as it is now canceled.

Claim 3 depends from claim 1 and is allowable for the same reasons as discussed above with respect to claim 1.

Claims 15-22 are allowable over the cited references in that this claim recites a combination of elements including, for example, “a first insulating layer formed on an entire surface of the first substrate except an upper portion of the storage capacitor electrode.” Moon does not teach or suggest at least this features of the claimed invention as admitted by the Examiner: “Moon does not explicitly disclose a first insulating layer 5, formed on an entire surface of the first substrate except an upper portion of the storage capacitor electrode.” (Office Action, p. 6.) Further the Examiner states: “However, the teachings of Moon are considered to render the claimed invention obvious to those having ordinary skill in the art of liquid crystals, since there is almost no functional significance to the minor structural difference as claimed.” Applicant respectfully submits that there is a functional significance to the differences between Moon and the present invention.

The first insulating layer provides insulation between the gate electrode and the active layer of the thin film transistor. It also provides a barrier between the first substrate and the other layers on the first substrate. The second insulating layer affects the characteristics of the storage capacitor. For example, to increase the capacitance of the storage capacitor, the thickness of the second insulating layer may be decreased and the dielectric constant of the second insulating layer may increased. As shown in Moon, the insulating layer 6 insulates the substrate 100 from other layers on the substrate. If the insulating layer 6 is made thin to increase the capacitance of the storage capacitor, then it may not effectively provide insulation between the substrate 100 and other layers on the substrate. Because, the insulation requirements vary by location on the substrate, there is a functional difference to the structural differences between the present invention and Moon. Accordingly, Applicant submits that claim 15 and claims 16-22, which depend from claim 15, are allowable.

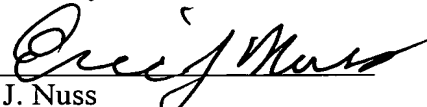
The rejection of claims 5 and 23-25 under 35 U.S.C. 103(a) as being unpatentable over Moon further in view of Hwang is respectfully traversed and reconsideration is requested. Claims 5 and 23-25 depend from claims 1 and 15 respectively. Claims 5 and 23-25 are allowable for the same reasons that claims 1 and 15 are allowable in that Hwang does not teach the features that Moon fails to teach.

Applicants believe the foregoing amendments place the application in condition for allowance and early, favorable action is respectfully solicited. If for any reason the Examiner finds the application other than in condition for allowance, the Examiner is requested to call the undersigned attorney at (202) 496-7500 to discuss the steps necessary for placing the application in condition for allowance. All correspondence should continue to be sent to the below-listed address.

If these papers are not considered timely filed by the Patent and Trademark Office, then a petition is hereby made under 37 C.F.R. §1.136, and any additional fees required under 37 C.F.R. §1.136 for any necessary extension of time, or any other fees required to complete the filing of this response, may be charged to Deposit Account No. 50-0911. Please credit any overpayment to deposit Account No. 50-0911. A duplicate copy of this sheet is enclosed.

Dated: April 16, 2004

Respectfully submitted,

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